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SUCCESS

WITH

LAWNS

WITH HINTS ON GRASS CULTURE.

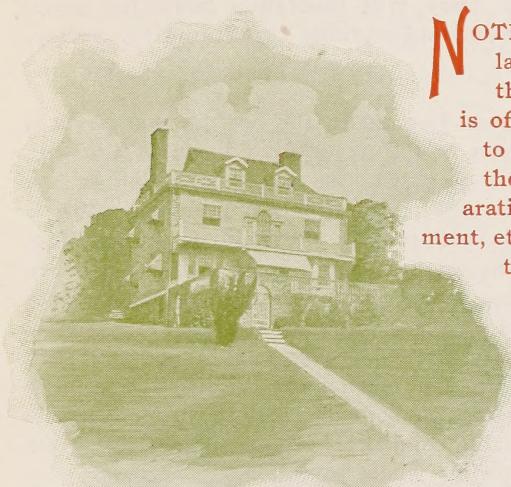
Wood, Stubbs & Co.,

Louisville,
Kentucky.



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1902 AND 1903
WOOD, STUBBS & CO

Success with Lawns.



NOTHING adds more to the beauty of a landscape or the adornment of a home than beautiful green grass. No question is of more wide-spread interest than "How to obtain it?" From Canada to the Gulf the same questions about varieties, preparation of soils, eradication of weeds, treatment, etc., are asked. As a general proposition the making of fine lawns is attended with unsatisfactory results. There are reasons, some of them good ones, why in many cases grasses do not thrive and grow luxuriantly. Most of these can be explained and a satisfactory remedy suggested. In all cases an improvement in the situation can be made and usually successful results obtained. To help those who are striving for this result the following pages are prepared.

TWO PROBLEMS—The paramount question in the minds of most people is: How can I obtain a fine lawn? The dependent consideration is a question of economy.

Natural Influences.

In a vast country such as ours where there are so many diversified soils and such a range of climatic influences, locations, etc., the general proposition, that no particular grass is equally well adapted, will no doubt be acknowledged. A selection of suitable kinds for various positions and localities is then absolutely necessary, for, grasses that succeed in New England are not usually adaptable to hot dry sections. Varieties growing well on stiff heavy soils are liable to burn out in dry sandy soils. Some varieties grow luxuriantly in early spring, become brown and bare in summer, and revive in fall; others produce luxuriant growth in the summer but become bare of verdure when cold weather sets in. Some are weak-growing at the start but become healthy and robust after long standing, some start luxuriantly but die after the first one or two cuttings. One sort alone rarely gives satisfaction,

therefore a combination of desirable sorts is better. It has been demonstrated many times that land sown with grasses in mixture, produce more plants to the square foot than if sown in any one variety. It has also been fully proven that moisture evaporates very much more rapidly from bare spots in grass fields than from the leaves of the grass, thus causing the sod to die out rapidly.

The conclusion thus resolves itself to this: **Grasses in mixture of such varieties as are best adapted to the climate and soil are far more apt to succeed than one sort alone. They will furnish a beautiful green lawn in quicker time and withstand unfavorable conditions far better.**

Why Lawns Fail.

In the majority of cases where grass dies out in the hot dry weather it is largely due to imperfect preparation or the general condition of the soil. The most skilled artisans will be employed in the construction of the dwelling, but too often lawns are left to the itinerant pretender who is comparatively ignorant. Ground not properly prepared by sub-soiling, deep spading or draining (when necessary) cannot be expected to produce good results. A "hard pan" (that is soil packed hard underneath) does not permit moisture to rise nor does the ground absorb the water rapidly from the rains. Ground imperfectly drained becomes soggy and sour, and if devoid of vegetable matter, is in bad mechanical condition becoming very hard and stiff. Grass growing on soils containing little available plant food perishes when unfavorable conditions set in. Sometimes grass is drowned out by too much watering when young, as it becomes very tender, full of watery sap and spindling, so that it cannot stand the effects of hot sun. Sometimes weeds are allowed to take possession of the soil and a great many cases of failure are due to not having varieties suitable to the soil and location.

Various Soils.

One of the most frequent questions asked in relation to lawns is what kind of grass is best suited to certain classes of soils. On a following page will be found a list of the best and most desirable grasses used in this country, and the kind of soil to which they are best adapted.

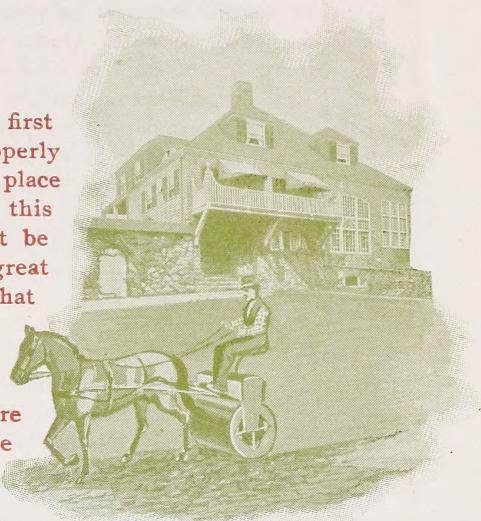
The majority of the best grasses for lawns grow most luxuriantly on loamy soils. Land that is too sandy dries out quickly and the grass perishes for a lack of moisture. Such land allows the plant food to leach out and it is washed too deep for the grass roots to reach it. Very heavy soil on the other hand retains too much moisture, or it often becomes so hard that chemical action and natural physical workings cannot take place. When such is the case the roots of the grass do not have a chance to penetrate the soil and best results are not attained. Before sowing grass seed, therefore, it is best to get the soil as nearly as possible of a loamy nature, and we have suggested under the next heading some ways of doing this.

Preparation of the Soil.

In preparing ground for lawns, the first thing to be done is to get it properly spaded and graded. The beauty of a place is often permanently marred, when this is improperly done, and it cannot be altered well in after years without great detriment to the shrubs and trees that have been planted, or walks and flower beds laid out. Ground not properly prepared cannot be expected to produce good results. Where a large lawn is contemplated and the preparation can be commenced six months ahead of seeding, it is economical, and nothing is more beneficial,

than to have the ground prepared and sown in Cow Peas in May. The growth of these in the summer months, smothers many weeds which naturally spring up in the soil, and if the crop of Peas is plowed underneath in the early fall, they add not only immense quantities of plant food but their decomposition makes the mechanical condition of the ground first-class. If contemplating to sow grass in the spring, Rye or Crimson Clover sown the previous fall and plowed under deeply, helps the mechanical condition. On new lands where quick results are desired existing circumstances must be accepted as they are found. If the soil is not in good condition it should be made so as far as possible. Proper draining is very necessary, and if not naturally well drained and it can be done, tiles should be laid every fifteen or twenty feet. If plowing is done a subsoil plow should follow a common plow, or two common plows can be used in the same furrow, one following the other so as to break the ground up as deeply and well as possible. In small grounds deep spading will do. Excavations or fills which contain inferior bare soil had better have four or five inches of good soil put on the top, or when rocks or trees are removed and the inferior subsoil is brought to the surface, proper grading should be done and good soil added. For small city lots the subsoil should be spaded as deeply as possible, adding good commercial fertilizer if not rich.

Preparation of the top soil should be well done, raking so as to remove all rough material, stones, rubbish, etc., and breaking up the soil to get it into fine smooth condition. In large places a "disc" harrow is one of the best tools for cutting up the soil, afterwards it should be followed by a smoothing harrow. While this is being done the application of a good commercial fertilizer, such as our Lawn and Garden Fertilizer, should be applied at the rate of 1 lb. to 60 square feet or 500 to 1,000 lbs. per acre. Land of heavy nature and inclined to get very hard, will be greatly benefited if well rotted manure, half rotted straw, decayed leaves



or other similar material be plowed or spaded in. Water slackened lime and kainit improve wetsoils. Under draining however is better, and in grading, the top surface of such ground should be left so that water will drain off. Sandy soils should have manure and fertilizer liberally applied, also where possible it is a good plan to put four or five inches of good stiff soil on the top, or as in most cases if there is a clay subsoil, some of this can be turned up and mixed with the top soil. Bearing in mind that as far as possible very stiff soil should be rendered lighter and sandy soils made of a heavy nature with good preparation and liberal application of Fertilizer and our celebrated Lawn Grass Seeds, failures to obtain a beautiful green lawn are rare.

Sowing.

After the ground has been thoroughly prepared the seed should be sown broadcast at the rate of one quart to 300 square feet, (12 x 25), or 60 to 100 lbs. per acre. Thick seeding always produces more satisfactory results, and even if it costs a little more, it is more economical in the end, as a quicker lawn will be obtained, and the grass will last longer. The time for seeding depends on the latitude. In the Northern states seed can be sown during September or October, and in the Southern and Middle states as late as November. In the spring any time from February until May according to location, the best time for Middle states being during March.

After the seed has been sown, it can be raked in with a garden rake or a very light or smoothing harrow, after which the ground should be rolled or boarded down firmly. The seed should not be sown, nor the ground worked when wet, as working soil in this condition will cause it to become hard and bake, and it will not get over these bad results for years. On inclines or slopes, where the land has been freshly worked up and grass seed sown, a covering of tobacco stems, or coarse straw will prevent the heavy rains from washing the soil and seed away.

Sodding.

The most expensive method of making lawn is by sodding and this is usually unsatisfactory from the fact that good sod is very hard to obtain. It usually contains coarse grass and many varieties of weeds. Sod can be used advantageously however on terraces or steep inclines, also on borders and edgings, but for general purposes whether it be an extensive lawn, or a small front yard, seeding is not only far less expensive, but produces more satisfactory results. Where sod is used at all it is far better to also sow some seed as it thickens up the grass better.





Care of Lawns.

While the grass is young, and even when the lawn gets well started, great care should be used to keep weeds and coarse grasses which naturally spring up in all soils from getting possession of the land. If a watchful oversight is kept at first, and weeds or coarse grass are destroyed, by cutting at the roots, or pulled up, the lawn grass will soon thicken up taking entire possession of the ground, filling up and interweaving, so there will be no chance for weeds to grow. All lawns should be regularly and carefully cut during the growing season with a lawn mower. Scythes should only be used when the grass is very long or in close places around shrubbery, etc., where a lawn mower cannot be

used, as careless cutting with a scythe will make bare spots appear. Mowing should be done in the spring season, beginning when the grass is three or four inches high and continuing every week or ten days 'till summer. Grass should not be cut too close in the summer, and when winter approaches it should be allowed to grow long to protect the roots from severe cold weather. One and a half to two inches is close enough to cut grass in the summer, and if the lawn is gone over every five or six days, the clippings need not be taken off, as the sun shrivels them and they do not appear unsightly. If the grass is very long when it is cut, it is better to rake off the clippings.

Watering in cities, or where it can be done, is a decided benefit during dry weather and should be done in the evening after the hot sun is off the lawn. It is not necessary to water every day, twice a week being usually enough unless in very dry soils, and it is far better to give the lawn a thorough soaking occasionally than to sprinkle it slightly every day.

Rolling.

Rolling the grass is beneficial to lawns, and should commence in the spring as soon as the severe freezing weather is over, as it smooths down the ground which might have been worked by the action of freezing and thawing, or the working up by moles. It also causes the roots of the grass to strike out fresh and take a deeper hold, thickening the sod up and enabling it to stand the hot dry weather better. A three-hundred pound roller is best, and the lawn should be gone over about once a week during the growing season.

A new lawn where the grass is young and tender should not be rolled until after the first cutting, and not then unless there is a strong vigorous growth.

Weeds.

In all soils there are more or less perennial weeds, which come up when the ground is freshly worked, but they are mostly in evidence the first season. Weeds such as dandelion, dock, plantain, thistles, etc., seriously interfere with the beauty of lawns. Cutting with a lawn mower usually destroys most weeds, but some of the more robust varieties will have to be cut at the roots with a knife. Crab grass is an annual variety which springs up during the summer. It remains green during the summer and dies early in the fall. It is one of the worst of all pests to get rid of, and being pliable, the lawn mower does not cut off all of the stems and a scythe will have to be used. The most effective remedy for Crab Grass, is to have lawn grass thick enough on the ground to prevent Crab Grass from coming up. As soon as it dies down in the fall, it should be raked up by the roots, and lawn grass sown thickly on the spots. In damp situations Moss is sometimes a source of trouble. This should be raked off and an application of lime and stable manure will usually put such land in good condition for lawn grass to grow successfully.

Renovating Old Lawns.

Lawns sometimes become worn out and bare from neglect or other causes and where it is not desired to plow and re-seed them it will be of great benefit if a sharp harrow is run over and more seed sown on the top. In small lots raking can be done with an ordinary iron garden rake. Lawn grass seed should be sown on all bare spots and the whole place raked or rolled afterwards. An application of a good commercial fertilizer such as our Lawn Fertilizer over the entire lawn and the sprinkling of lawn grass will freshen it up and improve the situation wonderfully. Lawns in good condition will be improved if raked over roughly in the fall care being used not to injure the roots, and an application of fertilizer and lawn grass applied or a top dressing of well rotted manure, thoroughly broken up will be most beneficial. The quantity of seed and fertilizer for renovating is only about one-quarter to a half of what is recommended for new lawns, the amount of seed being, of course, dependent on the stand of grass already on the ground.

Stable manure that is to be applied to lawns should be thoroughly rotted and decomposed, as if fresh, many weeds and coarse grasses will spring up from it. Tobacco stems are sometimes used in the winter as a top dressing, but if used at all, should only be spread very lightly and raked off early in the spring.

Nitrate of Soda applied to lawns early in the spring produces a very quick growth, as the nitrogen from this source is readily available. If applied dry, 200 pounds per acre is sufficient, and two applications of 100 pounds each, sown over the grass about three weeks apart is better than applying all at once. As it has a tendency to burn in dry weather it is better to apply before a rain, or it can be dissolved in water, about one pound of Nitrate to thirty or forty gallons of water, and the solution sprinkled on the lawn.

Varieties of Seed.

Kentucky as is well known produces grass seeds to perfection and the crops here grow luxuriantly. We carry the largest and most complete assortment of grass seeds in the Central West, our stocks being selected and recleaned with great care, so as to have them pure and the varieties tested for germination. We give on the following pages a list of the best and most suitable grasses for lawns, golf links, pasture and hay, and can supply all varieties of grasses and clover seeds at lowest prices. Our special mixtures are the result of years of practical experience with grass seeds, and will give most excellent results. Large buyers of any variety of Clover and Grass Seeds are requested to correspond with us.

The following list of Lawn Grasses and other special varieties suitable to various sections and uses:

W. S. & Co's Evergreen Lawn Grass Seed for general lawn purposes, whether large or small, putting greens and wherever the best green velvety turf is desired. Recommended for Northern and Middle latitudes, and will give good results on all classes of soils.

W. S. & Co's Shady Green Lawn Grass Seed for shady places and in damp situations where other grasses do not flourish.

W. S. & Co's Dixie Velvet Lawn Grass Seed for the Southern States and in hot dry climates where other varieties burn out.

W. S. & Co's Golf Link Mixture makes a good even springy turf that will bear tramping, and produce a thoroughly satisfactory Golf Course. Recommended also for large lawns where more expensive and finer growing grasses are not desired.

Kentucky Blue Grass. The finest, cleanest and heaviest quality seed, new crop and of highest germinating quality.

W. S. & Co's Special Grass and Clover Seed Mixtures, for hay and permanent pasture on various soils.

Lowest market prices quoted on all varieties of seeds on application. Special mixtures for all purposes to order.

Wood, Stubbs & Co's "EVERGREEN" Lawn Grass Seed.

Produces a fine beautiful green sward in four to six weeks from time it is sown. It is cheaper, more lasting, and produces a much cleaner, and more beautiful turf than sodding. It is vastly superior to Kentucky blue, making a thick, velvety green turf in a quicker time, is more lasting and better adapted to various soils. It withstands the heat and drouths of summer as well as the severest winters. It is the best and most economical grass seed for **Lawns, Parks, Cemeteries, Pleasure and Athletic Grounds, Golf Links** and other places where close, thick, velvety green grass is wanted.

Whether for large lawns or small city lot W. S. & Co's "Evergreen" Lawn Grass will prove entirely satisfactory and as it has been used extensively in all parts of the United States with satisfactory results we unhesitatingly say we believe it the **best Lawn Grass Seed offered anywhere.** See testimonials.

Considering the high quality of the seeds used, our "Evergreen" Lawn Grass is cheaper than the ordinary lawn grass mixtures, as it weighs 20 to 21 pounds per measured bushel, while others usually weigh 14 pounds per bushel.

PRICES. Postage paid. Pint, 15c; quart, 25c; 4 quarts, 90c.

Without postage. Pint, 10c; quart, 20c; 4 quarts, 65c; peck (5 lbs.), \$1.25; bushel (20 lbs.), \$4.00; 5 bushel and over at \$3.50 per bushel.

Board of Park Commissioners of the City of Louisville.

Office: 601 and 602 Columbia Building.

LOUISVILLE, KY., November 28, 1900.

MESSRS. WOOD, STUBBS & Co., Louisville, Ky.

Gentlemen—From the experience which I have had with your "Evergreen" Lawn Grass—and I may say I have used it in large quantities—I consider it the best grass seed for lawn purposes that I have ever used. Though the season this year has been a very unfavorable one, results have been very satisfactory, and in the course of my work in future years I expect to use it very largely.

Yours truly, CECIL FRAZER, Park Engineer, City of Louisville.

Oak Hill Cemetery.

Evansville, Ind.

MESSRS. WOOD, STUBBS & Co., Louisville, Ky.

Gentlemen—The Lawn Grass supplied us last spring proved quite satisfactory.

Yours, etc., WM. HALBROOKS, Supt.



December 4, 1900.



Wood, Stubbs & Co's "SHADY GREEN" Lawn Grass Seed.

Generally much disappointment is experienced in obtaining a sod in very shady places and especially under trees. Where there is dense shade or much drip it is almost impossible to do this.

In the majority of cases, however, if the ground be chopped up lightly, care being used not to injure the roots of the trees, and liberal applications of fertilizer applied, then raked fine and our "Shady Green" Lawn Grass sown, good results will be obtained.

Wood, Stubbs & Co's "Shady Green" Lawn Grass Seed is composed of **short, thick, fine growing, evergreen grasses**, which are naturally adapted to damp low situations, and will be found to give as satisfactory results as can be obtained. We have splendid reports from numerous customers who state that it is the most satisfactory grass seed that they have ever used for the purpose.

PRICES. Postage paid. Pint, 20c; quart, 30c; 4 quarts, \$1.10.

Without postage. Pint, 15c; quart, 25c; 4 quarts, 85c; peck (5 lbs.) \$1.50 bushel (20 lbs.), \$5.50; 5 bushel and over at \$5.25 per bushel.

Waltham Public Cemeteries.

Waltham, Massachusetts.

December 7, 1900.

MESSRS. WOOD, STUBBS & CO., Louisville, Ky.

Gentlemen—It gives me great pleasure in saying that the order for fifty or more bushels of "Evergreen" Lawn Grass Seed which I placed with you in the spring of the year of 1900 was received in fine condition, and in sowing same the results have been more than satisfactory. During my thirty years' experience in handling fine grass seeds I can truthfully say that I never had better returns than I have received from your seeds. I thank you for your courteous and honest dealing with me.

Yours truly, THEO. F. MANSFIELD, Supt.

Cave Hill Cemetery.

INCORPORATED.

Broadway and Baxter Avenue, Louisville, Ky.

November 14, 1899.

MESSRS. WOOD, STUBBS & CO., Louisville, Ky.

Gentlemen—I have been very well pleased with the results of your "Evergreen" Lawn Grass, and I think from the past year's experience that it is the most satisfactory grass seed that can be used for general lawn purposes. We are using it quite extensively in Cave Hill, both for new work and renovating.

I may say that all the Grass Seeds, Flower Seeds, Bulbs and general Horticultural Supplies used in the cemetery the past season were purchased from you, and have given entire satisfaction. Very truly yours,

ROBT. CAMPBELL, Supt.

Wood, Stubbs & Co's "Dixie Velvet" Lawn Grass Seed.

The hot, dry conditions prevailing in the Southern and some of the Western states, make the lawn proposition an extremely unsatisfactory one, and lawn grass seeds which grow luxuriantly in cool latitudes are not successful in these sections. Bermuda Grass has been used considerably, but owing to its becoming brown and bare in cool weather, is not satisfactory. Our "Dixie Velvet" Lawn Grass is a combination of the best grasses to withstand the heat and drouths of summer with Bermuda Grass and will retain its verdure throughout the season, making a beautiful green sod the whole year round. It will also be found satisfactory on terraces and slopes, facing southward, where other lawn grasses burn out.

PRICES. Postage paid. Pint, **20c**; quart, **35c**; 4 quarts, **\$1.25**. Without postage. Pint, **15c**; quart, **30c**; 4 quarts, **\$1.00**; peck (5 lbs.), **\$1.75**; bushel (20 lbs.), **\$6.50**; 5 bushels and over **\$6.00** per bushel.



Kentucky Blue Grass Seed.

(*Poa pratensis*.) Well known in all sections, and where the land is suitable, one of the most valuable grasses in cultivation for pasture. Succeeds best on limestone soils but generally grows well on any clay or loamy soil in the Middle and Northern states. Kentucky Blue is at its best in spring or fall months, but being rather sensitive to the heat, does not grow luxuriantly during the summer. At first it grows slowly, but afterwards forms a very compact turf, making a fine pasture and is excellent for lawns. For the latter purpose a combination with other grasses is best. Can be sown in spring or fall at the rate of $1\frac{1}{2}$ to 2 bushels to the acre, if for pasture, and 3 to 5 bushels per acre for lawns. A popular impression exists that "Fancy" Kentucky Blue Grass does not germinate well on account of being heated in bags. The real trouble about the germination of Kentucky Blue is that the heating when it occurs is in the Curing-houses, therefore "stripped" seed may not germinate any better than "Fancy Clean" seed. Again, Kentucky Blue Grass seed is adulterated with Canadian Blue, which is inferior to it, but cheapens the price. Our stock of Kentucky Blue has been selected from seed which has not been heated and is thoroughly cleaned, and is pure **unmixed** seed. **Price W. S. & Co's Best Fancy**, per lb., **15c**; bushel (14 lbs.), **\$1.35**; 5 bushels and over, **\$1.30** per bushel.

Bermuda Grass.

(Cynodon Dactylon) A great boon in the South for pasture, and when once established no amount of drouth or hot weather will kill it out. On rich loamy soil it will produce good hay, which is superior to timothy in nutritive qualities. Bermuda Grass succeeds on nearly all soils, affording an abundance of leaves furnishing constant growth of grass during the summer months, but becomes brown and bare in the fall and winter. The dry leaf stalks however, are very nutritive, and readily eaten by stock, both green and dry. It cannot be recommended too highly for pasture and general culture in the South for pasture and is also excellent for summer lawns. Is hard to eradicate after once sowing, therefore should not be used except for lands being intended for permanent pasture or lawns.

It was popularly supposed that Bermuda Grass could not be raised from seed, and planting by roots has been recommended. Seed of good germinating quality sown 3 to 5 lbs. to the acre will produce a good stand, and is far cheaper than sodding. A firm seed bed should be made, and the seed covered very lightly, not over $\frac{1}{4}$ inch and rolled afterwards. Price, **W. S. & Co's Best Grade**, new crop, per lb. **65c.**; postpaid **75c.**; bush. (30 lbs.) **\$18.00**.

Wood, Stubbs & Co's Lawn and Garden Fertilizer.

A complete and concentrated manure for making and sustaining fine lawns. It will improve the grass wonderfully, giving it a beautiful green color. For new lawns apply broadcast five pounds to 300 square feet (12 x 25), or 500 to 1000 pounds per acre, working in and mixing in the soil. As a top dressing, in the winter or early spring, apply at the rate of five pounds for 500 square feet, or 400 pounds per acre. The best time to apply as a top dressing is before a rain or snow. Price, 5 lbs. **30c.**; 10 lbs. **50c.**; 25 lbs. **\$1.00**; 50 lbs. **\$1.75**; 100 lbs. **\$3.00**; 200 lbs. **\$5.00**; ton, **\$45.00**.

Hints on Grass Culture.

Preparation of the Soil. Lands intended for meadows should be prepared in the very best manner. Not only should the drainage be made perfect (if not so naturally), but the soils should be as well prepared as for the growing of the most highly cultivated crops. It should be put in the finest mechanical condition. Every trace of wild growth and of unimproved land should be effaced. Stumps should be extracted so that mowers and horse rakes may be used. All bushes, roots, stones, trash, brush and the turf of wild grasses and weeds should be removed or destroyed. The cultivation of the land for a few years in crops requiring clean cultivation and high fertilization is probably the best preparation for a meadow. A crop of annual grass, such as millet, fits the land for a perennial meadow by destroying the weeds. New lands with fertile soils, however, when put in good tilth, grow the meadow grasses to perfection. If old land is selected it should be deeply plowed and, if possible, sub-soiled, for deep tillage is essential to the luxuriant growth of the perennial grasses. Their roots constantly seek a lower level, and if the land is at first drained and afterwards fertilized year after year and kept free from noxious weeds, the meadow will grow stronger and better with time.

Sowing. The best time for sowing meadows is the last of September or October, though they are more generally sown in February, March, or April, March being the best of these months. The quantities of seed to be sown to the acre are given under description of different varieties of grass. In sowing, it is best to mark off the land in such width as can be conveniently sown, dividing the seed for such portion, sowing one-half in going one way over that portion of the land, then returning the same way sowing the other half, so that it is spread uniformly all over the field. It is important that the grass seeds be covered carefully, to a depth of not more than half an inch. Clover and some of the larger seeds will germinate and grow at the depth of an inch. After the seeds are sown they should be covered with a roller or a light brush and all stock kept out. Farmers, more than otherwise, sow grass seed in the fall of the year with wheat. This is poor economy. A meadow should be sown for its own sake. In trying to save the cost of preparing the land a second time there results, in a majority of instances, the total loss of the grass seed. At any rate, in sowing grass seed with wheat, rye or barley, a whole year and a half must elapse before any returns can be realized from the meadow. Another objection to this method is the temptation to pasture the stubble lands during the heated term and so destroy or impair the vitality of the grasses. If the soil has been properly prepared and a sufficient amount of good grass seed sown alone in the early fall one may expect with the greatest confidence a good crop of hay the succeeding summer. Oftentimes the heaviest crop of hay is the first one. This arises from the fact that close mowing the first year frequently kills a portion of the meadow grasses, leaving bare spots.

Treatment of Meadows. It frequently happens that a meadow becomes "hide bound," that is to say, the soil and sub-soil run together and become very compact, either from tramping of stock or from standing water. When this is the case, the grass will show a diminished vitality by turning yellow. Under these conditions it will rarely grow tall enough to be mowed. The best remedy for this "hide bound" condition is to take a very narrow sub-soil plow, with a coulter attached, and run it at intervals of two feet through the meadow and as deep as possible. This will roughen some places, but by running a fine-toothed harrow over it it may be made sufficiently level for the mower. The best time for this sub-soiling is early in the spring, as soon as the ground becomes dry enough to plow. Old meadows may be made productive by pursuing this plan and top-dressing with manure directly afterwards. This same treatment should be given to pastures after they have ceased to be productive. Be sure to destroy the broomsedge. It is best not to apply stable manure during the continuance of the heated term, for such manure has the effect of making the meadow still drier and of attracting a number of insects that cover and feed upon the small green blades. The best treatment after mowing is to top-dress with about 100 pounds per acre of Nitrate of Soda. This preserves the verdure of the grass. In two or three weeks an application of fertilizers with a large content of potash should be added, such as our Acme Brand Wheat and Corn Fertilizer. Where there is clover, gypsum may always be applied with good results. After the fall rains begin, stable manure should be applied freely.

Wood, Stubbs & Co's General List of Grass Seeds.

Market Changes. Grass and Clover Seeds are constantly changing, therefore prices cannot be given here. All orders will be filled at lowest price when they are received, or we will take pleasure in quoting prices at any time. As most of the varieties are so well known, we have condensed the information regarding them.

	Uses to which Best Suited	Kind of Lands to which Best Adapted	Quantity to the Acre when Sown Alone	Weight per bushel
Orchard Grass -----	Hay and [<i>Dactylis Glomerata</i>] Pasture	Limestone, loamy and stiff uplands	1½ to 2 bushels	14 lbs.
Tall Oat Grass -----	Hay and [<i>Avena Elatior</i>] Pasture	Light, loamy and stiff uplands	1½ to 2 bushels	11 lbs.
Kentucky Blue -----	Pasture [<i>Poa Pratensis</i>] and Lawns	Limestone, loamy and stiff soils	1½ to 4 bushels	14 lbs.
Timothy -----	Hay [<i>Phleum Pratense</i>]	Stiff, loamy and bottom lands	½ to ½ bushels	45 lbs.
Red Top or Herds Grass -----	Pasture [<i>Agrostis Vulgaris</i>] and Hay	Stiff, loamy or wet bottoms	Fancy 6 lb. Prime 2 bu.	14 lbs.
English Blue or Meadow Fescue -----	Hay and [<i>Festuca Pratensis</i>] Pasture	Flat lands and wet bottoms	1 to 1½ bushels	24 lbs.
Hungarian or Awnless Brome Grass -----	Hay or [<i>Bromus Inermis</i>] Pasture	Sandy, light or loamy soil	1½ to 2 bushels	14 lbs.
Italian Rye Grass -----	Hay and [<i>Lolium Italicum</i>] Pasture	Stiff lands and rich bottoms	1½ to 2 bushels	14 lbs.
Perennial Rye Grass -----	Hay and [<i>Lolium Perenne</i>] Pasture	Loamy and stiff uplands	1½ to 2 bushels	14 lbs.
Creeping Bent Grass -----	Pasture [<i>Agrostis Stolonifera</i>] and Lawns	Light, loamy, stiff and bottoms	1½ to 2 bushels	14 lbs.
Rhode Island Bent -----	Pasture [<i>Agrostis Canina</i>] and Lawns	Light, loamy, stiff and bottoms	1½ to 2 bushels	14 lbs.
Sheep Fescue -----	Pasture [<i>Festuca Ovina</i>] and Lawns	Light, loamy and rocky soils	1½ to 2 bushels	14 lbs.
Wood Meadow -----	Pasture [<i>Poa Nemoralis</i>] and Lawns	Low, wet and shady situations	1½ to 2 bushels	14 lbs.
Rough Stalked Meadow -----	Pasture [<i>Poa Trivialis</i>] and Lawns	Moist, sheltered and low situations	1½ to 2 bushels	14 lbs.
Johnson Grass -----	Hay and [<i>Sorghum Halapense</i>] Pasture in the South	Nearly all soils	1 bushel	24 lbs.
Bermuda Grass -----	Hay, Pasture [<i>Cynodon Dactylon</i>] All fertile soils and Lawns in the South		3 to 5 pounds	30 lbs.

Clover Seeds.

Lowest Prices quoted on application. Orders entrusted to us will be supplied at market rates on day received. Wood, Stubbs & Co's Best Grades are recleaned and of highest quality.

	Uses to which Best Suited	Kind of Lands to which Best Adapted	Quantity to the Acre when Sown Alone	Weight per bushel
Red Clover -----	Hay or [Trifolium Pratense]	Loamy and stiff soils	$\frac{1}{8}$ to $\frac{1}{4}$ bushel	60 lbs.
Mammoth or Sapling Clover -----	{ Same uses and soil as Red Clover. Makes much larger growth and ripens three weeks later.			
Alfalfa or Lucerne Clover -----	Hay only	Light or deep loams	$\frac{1}{4}$ to $\frac{1}{3}$ bushel	60 lbs.
Alsike Clover -----	Hay or [Trifolium Hybridum]	Loamy or stiff bottoms	5 to 8 lbs.	60 lbs.
Crimson Clover -----	Hay or [Trifolium Incarnatum]	Light, loamy or stiff soils	$\frac{1}{4}$ to $\frac{1}{3}$ bushel	60 lbs.
White Clover -----	Pasture [Trifolium Repens]	Light, loamy or stiff soils	4 to 6 lbs.	60 lbs.
Japan Clover -----	Pasture [Lespedeza Striata]	Worn out Pastures	10 lbs.	25 lbs.

Wood, Stubbs & Co's Grass and Clover Seed Mixtures.

For Hay and Permanent Pasture on Various Soils.

MIXTURE No. 1. For Light Sandy or Loamy Soils.

Creeping Bent Grass, Tall Oat Grass,
Orchard Grass, Hungarian Brome,
Fancy Red Top, Sheep Fescue,
White Clover, Red Clover.

Sow 20 lbs. per acre.

MIXTURE No. 3. For Heavy Loam or Clay, or Bottom Lands

Timothy, Meadow Fescue,
Red Top, Fancy, Alsike Clover,
Mammoth Clover.

Sow 18 lbs. per acre.

MIXTURE No. 2. For Limestone, Stiff or Loamy Upland Soils.

Orchard Grass, Tall Oat Grass,
Ky. Blue Grass, Red Top, Fancy,
Perennial Rye, Red Clover.

MIXTURE No. 4. For Wet Bottom Land Subject to Overflow.

English Blue, Italian Rye,
Red Top, Fancy, Mammoth Clover
Rough Stalked Meadow.

Sow 25 lbs. per acre.

MIXTURE No. 5. Especially for the South on any good soil, with standing hot, dry weather.

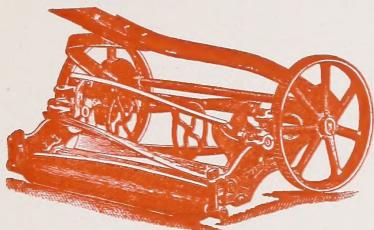
Bermuda Grass, Fancy Red Top, English Blue, Tall Oat Grass.
Sow 15 lbs. per acre.

"The Genuine Philadelphia Lawn Mowers."

THE Philadelphia Lawn Mowers have long ago established their reputation as the best, and have been universally used in all parts of the country for many years. They are constructed of the very finest quality of material, are built on the best mechanical principles, and on account of their simplicity and superior construction, are more durable, and less liable to get out of order. They will do better work than any other Lawn Mower offered.

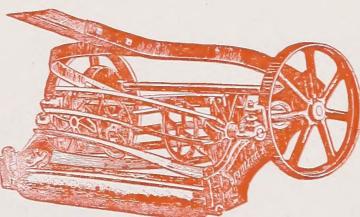
We offer also below one low grade machine made by the same company, but they are not recommended as well as the first two in our lists.

Our prices are reasonable, and we can arrange to deliver to various parts of the country at minimum freight rates.



Style E. High Wheel. Has 4 blades, 10 inch driving wheel, 6½ inch cylinder. This machine will cut high or short grass and can be easily adjusted for cutting long or close as desired. It has a solid frame, and the cylinder and drive wheel can be removed without trouble in case of sharpening or repairing.

PRICES. 15 inch cut, \$7.50; 17 inch cut, \$8.00; 19 inch cut, \$9.00.



Golf Mower.

Has 8 blades, high 10 inch wheels, 7½ inch cylinder. Constructed to give fine, close, even cut. Construction similar to Style E. The best Golf Mower made.

PRICES. 15 inch cut, \$10.50; 17 inch cut, \$11.50; 19 inch cut, \$12.50; 21 inch cut, \$13.50.



Drexel.

A well made mower sold at a low price. Cylinder with 8 blades, has 8 inch wheels. Diameter of cylinders, 5½ inches.

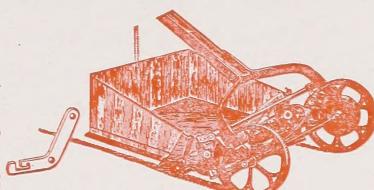
PRICES. 14 inch cut, \$3.00; 16 inch cut, \$3.25; 18 inch cut, \$3.50.

Philadelphia Grass Collectors.

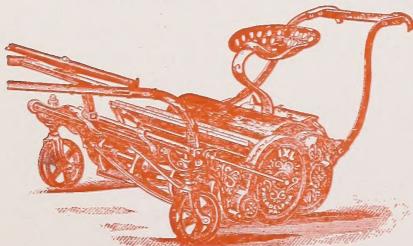
The bottom is made of galvanized iron, with never rip cloth connection. Thoroughly satisfactory and serviceable. Two styles; made for high and low wheels.

PRICES. For high wheel mowers: 15 inch cut, \$1.70; 17 inch cut, \$1.80; 19 inch cut, \$1.90.

For low wheel machines: 14 inch cut, \$1.60; 16 inch cut, \$1.70; 18 inch cut, \$1.80.



"Philadelphia Pony and Horse Lawn Mowers."



We do not hesitate to claim for these superiority in quality and workmanship, as they are made of the best material, finished with the latest improved methods, every mower guaranteed to give satisfaction.

All parts are interchangeable, and they are the best Horse Mowers made; furnished with seat, shaft and side draft attachments.

PRICES. □ Horse Mowers. 30 inch, complete, \$55.00; 35 inch, complete, \$65.00; 40 inch complete, \$80.00.

Pony Mower. 25 inch cut, \$35.00.

WOOD, STUBBS & CO'S

= Seeds =

Are endorsed by leading planters everywhere as the
Best and Most Reliable.

The Largest and Best Assortment
of Seeds in the Central-West.

Our Annual Catalogue

Issued in January, gives full list and descriptions besides valuable Cultural instructions and information about all seeds and crops.

Mailed Free on Request.

Our Fall Catalogue

Issued in August, contains list of Grass and Clover Seeds, Seed Wheat and other Grain. Vegetable and Flower Seeds for Fall sowing. Winter Flowering Bulbs for Fall planting and Fertilizers for Fall use.

Mailed Free on Request.

Wood, Stubbs & Co.,
SEED GROWERS
and IMPORTERS.

215 and 217 East Jefferson Street,
(opposite Hay Market.)

Louisville, Ky.

Our Stocks.

FIELD SEEDS.
Clover Seeds,
Grass Seeds,
Seed Wheat,
Seed Oats,
Barley,
Rye,
Seed Corn,
Millet,
Buckwheat,
Cow Peas,
Soja Beans,
Canada Field
Peas, Rape,
Sorghum or
Cane,
Broom Corn,
Onion Sets,
Seed Potatoes
and other
Forage and
Soiling Crops.

VEGETABLE SEEDS.
A complete stock of the very best quality, tested and true.

FLOWER SEEDS.

For Florists and private uses.

LAWN GRASS.

The kind that produces a beautiful green sward and stands heat and drouth.

FERTILIZERS.

For the Farm,
For the Garden,
For the Lawn.

SUNDRIES.

Insecticides,
Garden Tools,
Poultry Supplies,
Florists' Supplies,
Sprayers, Etc.

